AMENDMENT UNDER 37 C.F.R. § 1.111 Attorney Docket No.: Q90872

Application No.: 10/554,707

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): An aromatic-polyether-type ion-conductive ultrahigh molecular weight polymer having an ion exchange capacity of 0.1 meq/g or higher and a structure comprising an aromatic-polyether-type ultrahigh molecular weight polymer in which an acid group is introduced, said aromatic-polyether-type ultrahigh molecular weight polymer having consisting essentially of at least one structural unit selected from those represented by the following formulas (1) and (2) and the sum of the number a of the structural unit of the formula (1) and the number b of the structural unit of the formula (2) being 2 or larger:

$$\frac{\left[\left(Ar^{1}O\right)_{m}Ar^{1}\right]}{\left[\left(Ar^{1}O\right)_{m}Ar^{2}\right]}$$

$$\frac{\left[\left(Ar^{2}O\right)_{n}Ar^{2}\right]}{\left[\left(Ar^{2}O\right)_{n}Ar^{2}\right]}$$
 (2)

wherein Ar^{1} and Ar^{2} independently represent an aromatic divalent group, m and n represent repeating numbers, m and n independently represent a numeral of 10 or more, and a plurality of Ar^{1} , a plurality of Ar^{2} , a plurality of m and a plurality of n may be different respectively; and wherein the aromatic-polyether-type ultrahigh molecular weight polymer has a number-average molecular weight in terms of polystyrene of 100,000 or more.

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- (previously presented): The aromatic-polyether-type ion-conductive ultrahigh 2. molecular weight polymer according to claim 1, wherein the acid group is sulfonic acid group.
- (currently amended): A process for producing the aromatic-polyether-type ion-3. conductive ultrahigh molecular weight polymer of claim 1 which comprises introducing an acid group into an aromatic-polyether-type ultrahigh molecular weight polymer having-consisting essentially of at least one structural unit selected from those represented by the formulas (1) and (2) described in claim 1, the sum of the number a of the structural unit of the formula (1) and the number b of the structural unit of the formula (2) being 2 or larger.
- (original): A process according to claim 3, wherein the acid group is sulfonic acid 4. group.
- (currently amended): An aromatic-polyether-type ultrahigh molecular weight 5. polymer having consisting essentially of at least one structural unit selected from those represented by the following formulas (1) and (2), the sum of the number a of the structural unit of the formula (1) and the number b of the structural unit of the formula (2) being 2 or larger:

$$-\left[\left(Ar^{1} O\right)_{m} Ar^{1}\right] \qquad (1)$$

$$-\left(Ar^{2} O\right)_{n} Ar^{2}\right] \qquad (2)$$

$$\frac{\left(Ar^{2}-O\right)_{n}Ar^{2}}{\left(Ar^{2}-O\right)_{n}Ar^{2}}$$
 (2)

wherein Ar^1 and Ar^2 independently represent an aromatic divalent group, m and n represent repeating numbers, m and n independently represent a numeral of 10 or more, and a plurality of Ar^1 , a plurality of Ar^2 , a plurality of m and a plurality of n may be different respectively; and

wherein the aromatic-polyether-type ultrahigh molecular weight polymer has a numberaverage molecular weight in terms of polystyrene of 100,000 or more.

6. (previously presented): A process for producing an aromatic-polyether-type ultrahigh molecular weight polymer of claim 5 which comprises polymerizing by a condensation reaction at least one polymer selected from the polymers represented by the following formulas (3) and (4) in the presence of a zerovalent transition metal complex:

$$X - (Ar^{1} - O -)_{m} - Ar^{1} - X$$
 (3)
 $X - (Ar^{2} - O -)_{n} - Ar^{2} - X$ (4)

wherein Ar¹, Ar², m and n are the same as defined in claim 5, X represents a group which is eliminated at the condensation reaction, and a plurality of X may be different.

(original): A process for producing an aromatic-polyether-type ultrahigh
molecular weight polymer according to claim 6, wherein X is chlorine, bromine, iodine,
p-toluenesulfonyloxy group, methanesulfonyloxy group or trifluoromethanesulfonyloxy group.

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 (previously presented): A polymer electrolyte comprising the aromaticpolyether-type ion-conductive ultrahigh molecular weight polymer of claim 1.

- (original): A polymer electrolyte membrane comprising the polymer electrolyte of claim 8.
 - 10. (original): A catalyst composition comprising the polymer electrolyte of claim 8.
- 11. (previously presented): A fuel cell comprising a polymer electrolyte membrane comprising the polymer electrolyte of claim 8 and/or a catalyst composition comprising the polymer electrolyte of claim 8.